

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **63302523 A**(43) Date of publication of application: **08.12.88**

(51) Int. Cl.

H01L 21/31**H01L 21/318**(21) Application number: **62138788**(22) Date of filing: **02.06.87**(71) Applicant: **HITACHI ELECTRONICS ENG CO LTD**

(72) Inventor:

OYAMA KATSUMI
HIKIMA HITOSHI
SHIMONO MASAOKI
NOZAKI ISATO
AIKAWA HIROSHI
NAGABAKI KEIICHI
HACHITANI MASAYUKI
NAGASHIMA SHIRO
TAKAMI KATSUMI

(54) PLASMA CVD DEVICE AND FILM FORMING METHOD

silicon oxide is blank-deposited.

COPYRIGHT: (C)1988,JPO&Japlo

(57) Abstract:

PURPOSE: To inhibit abnormal discharge generated in a shower electrode, and to prevent the deterioration of the film quality of plasma silicon nitride and the frequent generation of foreign matters by connecting a reaction-gas feed-in means to the shower electrode and connecting a gas feed pipe for blank depositing an silicon oxide film to the reaction-gas feed-in means.

CONSTITUTION: In a plasma CVD device having a susceptor 2 and a shower electrode 4 oppositely faced to the susceptor 2 in a reaction furnace 1 and manufacturing an silicon nitride film, a reaction-gas feed-in means is connected to said shower electrode 4, and a gas feed pipe 30 for blank-depositing an silicon oxide film is further connected to the reaction-gas feed-in means. When the silicon nitride film is formed through a plasma CVD method, silicon oxide is blank deposited in the reaction furnace 1 first, silicon nitride is blank-deposited and the silicon nitride film is shaped onto the surface of a wafer. SiH_4 and N_2O gas are fed respectively into the furnace from feed pipes 20 and 30 before silicon nitride is blank-deposited, and

